CLAIMS

We claim:

1. A method of transmitting a signal, comprising:

generating respective phase and amplitude signals for respective symbols;

generating a radio signal that comprises the respective phase and amplitude signals for the respective symbols; and

varying a timing between the respective phase and amplitude signals responsive to a transmit power for the radio signal.

2. The method of Claim 1, wherein varying the timing between the respective phase and amplitude signals responsive to the transmit power for the radio signal comprises:

varying the timing between the respective phase and amplitude signals to control at least one of an error vector magnitude and an adjacent channel power ratio for the radio signal.

3. A method of transmitting a signal, comprising:

adjusting a delay between an amplitude component of the signal and a phase component of the signal based on a transmit power of the signal.

4. The method of Claim 3, wherein adjusting the delay between the amplitude component of the signal and the phase component of the signal based on the transmit power of the signal comprises:

adjusting the delay between the amplitude component of the signal and the phase component of the signal for the transmit power such that a combination of an error vector magnitude for the signal and an adjacent channel power ratio for the signal is substantially minimized.

5. The method of Claim 4, wherein adjusting the delay between the amplitude component of the signal and the phase component of the signal for the transmit power such that the combination of the error vector magnitude for the signal and the adjacent channel power ratio for the signal is substantially minimized comprises:

determining a first range of delay values between the amplitude component of the signal and the phase component of the signal for the transmit power such that the error vector magnitude for the signal is less than a predefined error vector magnitude threshold; and

determining a second range of delay values between the amplitude component of the signal and the phase component of the signal for the transmit power such that the adjacent channel power ratio for the signal is less than a predefined adjacent channel power ratio threshold.

6. The method of Claim 5, further comprising:

determining a third range of delay values that comprises those delay values common to both the first range of delay values and the second range of delay values; and

selecting the delay between the amplitude component of the signal and the phase component of the signal for the transmit power from the third range of delay values such that the combination of the error vector magnitude for the signal and the adjacent channel power ratio for the signal is substantially minimized.

7. The method of Claim 3, wherein adjusting the delay between the amplitude component of the signal and the phase component of the signal based on the transmit power of the signal comprises:

defining a plurality of transmit power levels for the signal; and

determining respective delay values between the amplitude component of the signal and the phase component of the signal for respective ones of the defined plurality of transmit power levels such that a combination of an error vector magnitude for the signal and an adjacent channel power ratio for the signal is substantially minimized.

8. A method of operating a transmitter, comprising:

separating a signal into an amplitude component and a phase component;

selecting a transmit power for the signal;

adjusting a delay between the amplitude component and the phase component based on the selected transmit power; and

combining the amplitude component and the phase component.

9. The method of Claim 8, wherein adjusting the delay between the amplitude component and the phase component comprises:

adjusting the delay between the amplitude component and the phase component for the selected transmit power such that a combination of an error vector magnitude for the signal and an adjacent channel power ratio for the signal is substantially minimized.

10. The method of Claim 9, wherein adjusting the delay between the amplitude component and the phase component for the selected transmit power such that the combination of the error vector magnitude for the signal and the adjacent channel power ratio for the signal is substantially minimized comprises:

determining a first range of delay values between the amplitude component and the phase component for the selected transmit power such that the error vector magnitude for the signal is less than a predefined error vector magnitude threshold; and

determining a second range of delay values between the amplitude component and the phase component for the selected transmit power such that the adjacent channel power ratio for the signal is less than a predefined adjacent channel power ratio threshold.

11. The method of Claim 10, further comprising:

determining a third range of delay values that comprises those delay values common to both the first range of delay values and the second range of delay values; and

selecting the delay between the amplitude component and the phase component for the selected transmit power from the third range of delay values such that the combination of the error vector magnitude for the signal and the adjacent channel power ratio for the signal is substantially minimized.

12. A method of operating a transmitter, comprising:

defining a plurality of transmit power levels;

associating respective ones of a plurality of delay values between an amplitude component of a test signal and a phase component of a test signal with respective ones of the plurality of transmit power levels.

13. The method of Claim 12, further comprising:

selecting one of the plurality of transmit power levels;

obtaining the delay value that is associated with the selected transmit power level;

transmitting a signal such that a delay between an amplitude component and a phase component of the transmitted signal corresponds to the obtained delay value.

14. The method of Claim 12, wherein associating respective ones of the plurality of delay values between the amplitude component of the test signal and the phase component of the test signal with respective ones of the plurality of transmit power levels comprises:

determining respective delay values between the amplitude component of the test signal and the phase component of the test signal for respective ones of the defined plurality of transmit power levels such that a combination of an error vector magnitude for the signal and an adjacent channel power ratio for the signal is substantially minimized.

15. A transmitter, comprising:

means for generating respective phase and amplitude signals for respective symbols;

means for generating a radio signal that comprises the respective phase and amplitude signals for the respective symbols; and

means for varying a timing between the respective phase and amplitude signals responsive to a transmit power for the radio signal.

16. The transmitter of Claim 15, wherein the means for varying the timing between the respective phase and amplitude signals responsive to the transmit power for the radio signal comprises:

means for varying the timing between the respective phase and amplitude signals to control at least one of an error vector magnitude and an adjacent channel power ratio for the radio signal.

17. A transmitter, comprising:

means for adjusting a delay between an amplitude component of the signal and a phase component of the signal based on a transmit power of the signal.

18. The transmitter of Claim 17, wherein the means for adjusting the delay between the amplitude component of the signal and the phase component of the signal based on the transmit power of the signal comprises:

means for adjusting the delay between the amplitude component of the signal and the phase component of the signal for the transmit power such that a combination of an error vector magnitude for the signal and an adjacent channel power ratio for the signal is substantially minimized.

19. The transmitter of Claim 18, wherein the means for adjusting the delay between the amplitude component of the signal and the phase component of the signal for the transmit power such that the combination of the error vector magnitude for the signal and the adjacent channel power ratio for the signal is substantially minimized comprises:

means for determining a first range of delay values between the amplitude component of the signal and the phase component of the signal for the transmit power such that the error vector magnitude for the signal is less than a predefined error vector magnitude threshold; and

means for determining a second range of delay values between the amplitude component of the signal and the phase component of the signal for the transmit power such that the adjacent channel power ratio for the signal is less than a predefined adjacent channel power ratio threshold.

20. The transmitter of Claim 19, further comprising:

means for determining a third range of delay values that comprises those delay values common to both the first range of delay values and the second range of delay values; and

means for selecting the delay between the amplitude component of the signal and the phase component of the signal for the transmit power from the third range of delay values such that the combination of the error vector magnitude for the signal and the adjacent channel power ratio for the signal is substantially minimized.

21. The transmitter of Claim 17, wherein the means for adjusting the delay between the amplitude component of the signal and the phase component of the signal based on the transmit power of the signal comprises:

means for defining a plurality of transmit power levels for the signal; and

means for determining respective delay values between the amplitude component of the signal and the phase component of the signal for respective ones of the defined plurality of transmit power levels such that a combination of an error vector magnitude for the signal and an adjacent channel power ratio for the signal is substantially minimized.

22. A transmitter, comprising:

means for separating a signal into an amplitude component and a phase component;

means for selecting a transmit power for the signal;

means for adjusting a delay between the amplitude component and the phase component based on the selected transmit power; and

means for combining the amplitude component and the phase component.

23. The transmitter of Claim 22, wherein the means for adjusting the delay between the amplitude component and the phase component comprises:

means for adjusting the delay between the amplitude component and the phase component for the selected transmit power such that a combination of an error vector magnitude for the signal and an adjacent channel power ratio for the signal is substantially minimized.

24. The transmitter of Claim 23, wherein the means for adjusting the delay between the amplitude component and the phase component for the selected transmit power such that the combination of the error vector magnitude for the signal and the adjacent channel power ratio for the signal is substantially minimized comprises:

means for determining a first range of delay values between the amplitude component and the phase component for the selected transmit power such that the error vector magnitude for the signal is less than a predefined error vector magnitude threshold; and

means for determining a second range of delay values between the amplitude component and the phase component for the selected transmit power such that the adjacent channel power ratio for the signal is less than a predefined adjacent channel power ratio threshold.

25. The transmitter of Claim 24, further comprising:

means for determining a third range of delay values that comprises those delay values common to both the first range of delay values and the second range of delay values; and

means for selecting the delay between the amplitude component and the phase component for the selected transmit power from the third range of delay values such that the combination of the error vector magnitude for the signal and the adjacent channel power ratio for the signal is substantially minimized.

26. A transmitter, comprising:

means for defining a plurality of transmit power levels;

means for associating respective ones of a plurality of delay values between an amplitude component of a test signal and a phase component of a test signal with respective ones of the plurality of transmit power levels.

27. The transmitter of Claim 26, further comprising:

means for selecting one of the plurality of transmit power levels;

means for obtaining the delay value that is associated with the selected transmit power level;

means for transmitting a signal such that a delay between an amplitude component and a phase component of the transmitted signal corresponds to the obtained delay value.

28. The transmitter of Claim 26, wherein the means for associating respective ones of the plurality of delay values between the amplitude component of the test signal and the phase component of the test signal with respective ones of the plurality of transmit power levels comprises:

means for determining respective delay values between the amplitude component of the test signal and the phase component of the test signal for respective ones of the defined plurality of transmit power levels such that a combination of an error vector magnitude for the signal and an adjacent channel power ratio for the signal is substantially minimized.

29. A computer program product for transmitting a signal, comprising:

a computer readable program medium having computer readable program code embodied therein, the computer readable program code comprising:

computer readable program code for generating respective phase and amplitude signals for respective symbols;

computer readable program code for generating a radio signal that comprises the respective phase and amplitude signals for the respective symbols; and

computer readable program code for varying a timing between the respective phase and amplitude signals responsive to a transmit power for the radio signal.

30. The computer program product of Claim 29, wherein the computer readable program code for varying the timing between the respective phase and amplitude signals responsive to the transmit power for the radio signal comprises:

computer readable program code for varying the timing between the respective phase and amplitude signals to control at least one of an error vector magnitude and an adjacent channel power ratio for the radio signal.

31. A computer program product for transmitting a signal, comprising:

a computer readable program medium having computer readable program code embodied therein, the computer readable program code comprising:

computer readable program code for adjusting a delay between an amplitude component of the signal and a phase component of the signal based on a transmit power of the signal.

32. The computer program product of Claim 31, wherein the computer readable program code for adjusting the delay between the amplitude component of the signal and the phase component of the signal based on the transmit power of the signal comprises:

computer readable program code for adjusting the delay between the amplitude component of the signal and the phase component of the signal for the transmit power such that a combination of an error vector magnitude for the signal and an adjacent channel power ratio for the signal is substantially minimized.

33. The computer program product of Claim 32, wherein the computer readable program code for adjusting the delay between the amplitude component of the signal and the phase component of the signal for the transmit power such that the combination of the error vector magnitude for the signal and the adjacent channel power ratio for the signal is substantially minimized comprises:

computer readable program code for determining a first range of delay values between the amplitude component of the signal and the phase component of the signal for the transmit power such that the error vector magnitude for the signal is less than a predefined error vector magnitude threshold; and

computer readable program code for determining a second range of delay values between the amplitude component of the signal and the phase component of the signal for the transmit power such that the adjacent channel power ratio for the signal is less than a predefined adjacent channel power ratio threshold.

34. The computer program product of Claim 33, further comprising:

computer readable program code for determining a third range of delay values that comprises those delay values common to both the first range of delay values and the second range of delay values; and

computer readable program code for selecting the delay between the amplitude component of the signal and the phase component of the signal for the transmit power from the third range of delay values such that the combination of the error vector magnitude for the signal and the adjacent channel power ratio for the signal is substantially minimized.

35. The computer program product of Claim 31, wherein the computer readable program code for adjusting the delay between the amplitude component of the signal and the phase component of the signal based on the transmit power of the signal comprises:

computer readable program code for defining a plurality of transmit power levels for the signal; and

computer readable program code for determining respective delay values between the amplitude component of the signal and the phase component of the signal for respective ones of the defined plurality of transmit power levels such that a combination of an error vector magnitude for the signal and an adjacent channel power ratio for the signal is substantially minimized.

36. A computer program product for operating a transmitter, comprising:

a computer readable program medium having computer readable program code embodied therein, the computer readable program code comprising:

computer readable program code for separating a signal into an amplitude component and a phase component;

computer readable program code for selecting a transmit power for the signal;

computer readable program code for adjusting a delay between the amplitude component and the phase component based on the selected transmit power; and

computer readable program code for combining the amplitude component and the phase component.

37. The computer program product of Claim 36, wherein the computer readable program code for adjusting the delay between the amplitude component and the phase component comprises:

computer readable program code for adjusting the delay between the amplitude component and the phase component for the selected transmit power such that a combination of an error vector magnitude for the signal and an adjacent channel power ratio for the signal is substantially minimized.

38. The computer program product of Claim 37, wherein the computer readable program code for adjusting the delay between the amplitude component and the phase component for the selected transmit power such that the combination of the error vector magnitude for the signal and the adjacent channel power ratio for the signal is substantially minimized comprises:

computer readable program code for determining a first range of delay values between the amplitude component and the phase component for the selected transmit power such that the error vector magnitude for the signal is less than a predefined error vector magnitude threshold; and

computer readable program code for determining a second range of delay values between the amplitude component and the phase component for the selected transmit power such that the adjacent channel power ratio for the signal is less than a predefined adjacent channel power ratio threshold.

39. The computer program product of Claim 38, further comprising:

computer readable program code for determining a third range of delay values that comprises those delay values common to both the first range of delay values and the second range of delay values; and

computer readable program code for selecting the delay between the amplitude component and the phase component for the selected transmit power from the third range of delay values such that the combination of the error vector magnitude for the signal and the adjacent channel power ratio for the signal is substantially minimized.

40. A computer program product for operating a transmitter, comprising:

a computer readable program medium having computer readable program code embodied therein, the computer readable program code comprising:

computer readable program code for defining a plurality of transmit power levels;

computer readable program code for associating respective ones of a plurality of delay values between an amplitude component of a test signal and a phase component of a test signal with respective ones of the plurality of transmit power levels.

41. The computer program product of Claim 40, further comprising:

computer readable program code for selecting one of the plurality of transmit power levels;

computer readable program code for obtaining the delay value that is associated with the selected transmit power level;

computer readable program code for transmitting a signal such that a delay between an amplitude component and a phase component of the transmitted signal corresponds to the obtained delay value.

42. The computer program product of Claim 40, wherein the computer readable program code for associating respective ones of the plurality of delay values between the amplitude component of the test signal and the phase component of the test signal with respective ones of the plurality of transmit power levels comprises:

computer readable program code for determining respective delay values between the amplitude component of the test signal and the phase component of the test signal for respective ones of the defined plurality of transmit power levels such that a combination of an error vector magnitude for the signal and an adjacent channel power ratio for the signal is substantially minimized.